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THE MARITIME VARIANT OF *SMILAX BONA-NOX* (SMILACACEAE)

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ABSTRACT

A variety of *Smilax bona-nox* L. described in 1944 lacks a Latin diagnosis and therefore was not validly published. Morphological and habitat characters strongly suggest that the variety is real, and it is recognized here by valid publication: **Smilax bona-nox** L. var. **littoralis** Coker ex Sorrie, **var. nov.**

In his excellent monograph on "The Woody Smilaxes of the United States," William Chambers Coker (1944) described variety *littoralis* Coker within *S. bona-nox* L. His type description stated "Tubers without spines and after a few months lead gray; stolons with few or no spines; aerial canes entirely without scurfy 'hairs.' Otherwise as in the species." Coker designated a type specimen, but without a Latin diagnosis the name was not validly published under the Botanical Code of that time. Here, I validate Coker's epithet and provide additional taxonomic and habitat data.

Smilax bona-nox L. var. **littoralis** Coker ex Sorrie, **var. nov.** **TYPE: USA. South Carolina.** Horry Co.: Myrtle Beach, 2 Jul 1942, *W.C. Coker & B.E. Smith s.n.* (holotype: NCU). The label on a syntype is identical but also reads "sandy flats behind dunes" (NCU 3 sheets).

Plants as in typical *Smilax bona-nox* but aerial stems without scurfy hairs, runners with few or no spines, tubers with few and poorly developed spines, and leaf major veins 7–9 (vs. 5–7).

Specimens annotated by Coker as var. *littoralis* are from maritime habitats in South Carolina. He did not annotate specimens from other states as var. *littoralis* because no specimens available to him at NCU bore underground parts and very few possessed lower portions of aerial stems. With such a restricted range, and requiring tubers, runners, and lower stems for identification, it is understandable that subsequent authors have not recognized var. *littoralis*. Ahles (1968) and Godfrey and Wooten (1981) omitted any mention of it; Holmes (2002) listed it in synonymy. Herbarium specimens collected since Coker rarely have lower stems or underground parts present. Nonetheless, Coker in his monograph showed a mastery of the genus and it is just as useful today as then; it is therefore likely that his observations have merit. I here provide supporting and additional data to his description.

Morphological characters

To assess the validity of var. *littoralis*, and to develop key characters on aerial parts, I tested a number of potential morphological characters from specimens at NCU: fruit size, fruit surface, tepal length, tepal shape, tepal color, leaf morphology, and leaf venation. I found that mature fruit size was essentially identical between var. *bona-nox* and var. *littoralis*. Fruits were shallowly to deeply puckered (following pressing and drying) and surfaces varied from dull to shiny in both taxa. Leaf shape and size overlapped completely; leaf margin thickness and spininess showed complete overlap. However, tepals and leaf veins proved to be informative.

Applying certain of these criteria to NCU specimens proved to be informative. Maritime specimens which had lower portions of stems present showed no trace of raised stellate hairs. All

inland specimens with lower portions of stems present showed abundant raised stellate hairs. This character is extremely useful and apparently diagnostic — with living plants, I have used this single character to distinguish with near 100% accuracy maritime plants from inland plants of floodplain swamps. Dried specimens seldom have aerial stems present, however.

Leaf venation proves to be highly useful, despite some overlap. Maritime specimens show 7–9 major veins arising from the summit of the petiole, whereas inland plants show 5–7 major veins.

Specimens from barrier islands and other maritime habitats have short dark tepals, pointed but not attenuate tepals,. In contrast, all inland specimens have long pale tepals with attenuate tips. Tepal shape and color (when dried) are rather subjective characters to evaluate, and so I have omitted them from the revised type description above. Nonetheless, with caution they can be useful.

Other morphological differences. Living plants of var. *littoralis* produce shorter aerial stems than those of var. *bona-nox*. In tall maritime forests of the Outer Banks of North Carolina, var. *littoralis* seldom exceeds 5 meters in height, whereas var. *bona-nox* of inland swamps regularly exceeds 10 meters (pers. obs.). On open dunes var. *littoralis* often scrambles over shrubs but more often forms irregular patches of tangled growth less than a meter high. Plants are subject to continual salty breezes, frequent sand spray, and occasional storm overwash.

Table 1 compares various characters that have taxonomic value.

Table 1. Morphological and habitat characters of *Smilax bona-nox* var. *bona-nox* and var. *littoralis*.

character	var. *bona-nox*	var. *littoralis*
tuber surface	with abundant tiny rounded bumps, plus many sharp to blunt spines	with abundant tiny rounded bumps, with no spines or few and poorly developed sharp to blunt spines
runners ("stolons" per Coker)	with spines on nodes and internodes	"almost without spines" (Coker 1944)
aerial stems	lower portion covered with abundant tiny raised bumps, each with compound stellate hairs distally	lower portion smooth, stellate hairs absent
number of major leaf veins arising from summit of petiole	5–7	7–9
tepal length	4.5–6.0 mm	4.5–5.0 mm
tepal shape	attenuate	pointed, but not attenuate
tepal color (dried specimens)	tan to pale brown	dark brown to pale brown
habitat (from NC and SC specimens)	moist floodplains, alluvial flats, bottomlands, natural levees, river banks, swamp forests, "moist hilltop", "oak-hickory woods", "xeric woodland border." Primarily in deep shade.	maritime dunes, sandy pine woods on barrier islands, maritime shrub thickets, sand flats behind dunes, edges of brackish marshes, maritime forests. Primarily in full sun, but also light shade.

Habitat

Smilax bona-nox var. *littoralis* occurs strictly in plant communities on maritime sands. These include semi-stable sand dunes, shrub thickets, pine and pine-oak woods, maritime forests on oldder dunes, sand flats behind dunes, and edges of brackish marshes. Plants grow primarily in full sun and light shade but also in moderate shade. In contrast, var. *bona-nox* inhabits moist/wet soils of floodplain forests on older substrates, subject to temporary flooding.

Range

Specimens at NCU indicate a range from southeastern Virginia (probable) to south-central Florida and northwestern Florida. States and counties of occurrence are as follows. **Virginia**. Northampton Co.: End of County Road 662 on Ramshorn Bay (E of Eastville), 5 Mar 1966, *James 3755* (NCU; leaves with 9 major veins). **North Carolina**. Brunswick, Carteret, Craven, Currituck, Dare, Hyde, Pamlico, Pender counties. Carteret Co.: near Shackleford [Island] Point, 11 Apr 1898, *Ashe s.n.* (NCU). **South Carolina**. Berkeley, Charleston, Georgetown, Horry counties. **Georgia**. McIntosh Co.: Sapelo Island, climbing small trees in live oak woods near N end of island, 8 Aug 1956, *Duncan 20422* (NCU). **Florida**. Duval, Franklin, Highlands, Levy counties. Franklin Co.: Cape St. George Island, frequent with *S. auriculata* in sandy loam of hammock, bay side of island, 11 Apr 1985, *Anderson 7939* (NCU; leaves with 9 major veins, tepals short, dark, pointed).

Rarity status

Range-wide, *Smilax bona-nox* var. *littoralis* cannot be considered a rare taxon. It is common and characteristic of the Outer Banks and Core Bank of North Carolina and at least locally common in South Carolina. It may well be rare in Virginia, however, and vouchers should be collected with lower stems.

Taxonomic status

While the combination of morphological and habitat data may suggest specific status, I will defer here until additional material has been examined at other herbaria and until genetic work has been conducted. I think it important to verify the leaf venation and tepal characters in conjunction with stem trichomes (on the same specimens) in order to be confident of identification. Many incomplete specimens cannot now be reliably identified because they lack stems.

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